

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. Cancel claims 1-8, 11, 17 and 19-34. Retain claims 9, 10, 12-16 and 18 in original form.

1-8. (Canceled)

9. (Original) A system for monitoring a semiconductor production apparatus, comprising:

data acquisition means for acquiring from the semiconductor production apparatus a plurality of pieces of process data including values of a plurality of process parameters which correspond to a plurality of steps of a process recipe, the values being obtained while the semiconductor production apparatus is in operation;

data dividing means for dividing the plurality of pieces of process data for the respective process parameters and for the respective steps; and

model creation means for creating a multivariate analysis model using data obtained by dividing the plurality of pieces of process data.

10. (Original) The monitoring system of claim 9, wherein:

the semiconductor production apparatus includes a plurality of control devices and a controller computer connected to the plurality of control devices; and

the data acquisition means is connected to the controller computer and acquires from the controller computer the plurality of pieces of process data in the form of digital data.

11. (Canceled)

12. (Original) The monitoring system of claim 9, wherein:

the semiconductor production apparatus includes a plurality of control devices; and
the data acquisition means is connected to the plurality of control devices and acquires from the plurality of control devices the plurality of pieces of process data in the form of analog data.

13. (Original) The monitoring system of claim 9, further comprising data evaluation means for evaluating a plurality of pieces of new process data including values of the plurality of process parameters, which are newly acquired by the data acquisition means, based on the multivariate analysis model created by the model creation means, to determine whether the operation status of the semiconductor production apparatus is normal or abnormal.

14. (Original) The monitoring system of claim 13, further comprising:

lot information acquisition means for acquiring from the semiconductor production apparatus its process lot information; and

lot information addition means for adding the process lot information acquired by the lot information acquisition means to the plurality of pieces of new process data.

15. (Original) The monitoring system of claim 13, wherein:

the semiconductor production apparatus is connected to a host computer which retains process lot information of the semiconductor production apparatus; and

the monitoring system further includes

lot information acquisition means for acquiring the process lot information from the host computer, and

lot information addition means for adding the process lot information acquired by the lot information acquisition means to the plurality of pieces of new process data.

16. (Original) The monitoring system of claim 9, wherein the model creation means performs at least a principal component analysis.

17. (Canceled)

18. (Original) A system for monitoring a plurality of semiconductor production apparatuses, comprising:

a plurality of data acquisition means, each data acquisition means acquiring from a corresponding one of the plurality of semiconductor production apparatuses a plurality of pieces of process data including values of a plurality of process parameters which correspond to a plurality of steps of a process recipe, the values being obtained while the plurality of semiconductor production apparatuses are in operation;

a plurality of data dividing means, each data dividing means dividing the plurality of pieces of process data, which are acquired by the each of the plurality of data acquisition means, for the respective process parameters and for the respective steps;

a plurality of model creation means, each model creation means creating a multivariate analysis model using data obtained by dividing the plurality of pieces of process data by the each of the plurality of data dividing means;

a plurality of data evaluation means, each data evaluation means evaluating a plurality of pieces of new process data including values of the plurality of process parameters which are newly acquired by the each of the plurality of data acquisition means based on the multivariate analysis model created by the each of the plurality of model creation means, thereby determining whether the operation status of the corresponding one of the plurality of semiconductor production apparatuses is normal or abnormal; and

central monitoring means for accessing the respective one of the plurality of data evaluation means at a predetermined time interval to acquire results of the determination by the respective one of the plurality of data evaluation means as to whether the operation statuses of the plurality of semiconductor production apparatuses are normal or abnormal.

19-34. (Canceled)